

CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH
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Weekly  Bulletin

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GUY P. JONES
EDITOR

Epidemic Diarrhea of the New-Born

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Localized outbreaks of diarrheas and gastro-enteritis have frequently occurred in many localities, particularly during the summer months. Since attention has been paid to better sanitation and to food and water supplies these outbreaks have decreased considerably. They were not limited usually to one age group and careful laboratory study would result in finding a definite etiological agent. However, during the past three years, a number of outbreaks of diarrhea involving new-born infants in nurseries, have been recorded. These outbreaks seem to be limited to infants under 2 or 3 weeks of age who have not been discharged from hospital nurseries. Infants delivered in the home apparently do not contract the infection and adult contacts and older children contacts also escape infection.

The disorder is characterized by signs and symptoms of an acute intestinal toxicosis, evidences of shock, dehydration, and diarrhea. Fever is not a pronounced feature—usually not over 99 degrees or 100 degrees—in some cases the temperature is entirely normal but in fatal cases there may be a terminal rise. The diarrhea, while not pronounced, is a constant feature, the stools, numbering 5 to 8 or more, are of watery yellowish or greenish pea soup consistency containing no blood, pus, or mucus and are foul smelling. Abdominal distention is a troublesome symptom.

The dehydration may be excessive, even despite efforts to maintain the fluid balance. The infant often changes overnight from a healthy triving infant into a listless, drowsy one, taking feedings poorly and having a pinched, grayish appearance. Weight loss may be excessive and the first symptom noted, although in some instances there are prodromal signs of vomiting, listlessness, and weight loss before the onset of diarrhea. Usually, there are no signs of parenteral infections. In spite of various laboratory studies undertaken throughout the United States no definite etiological agent has so far been found.

The incubation period is quite variable. In most instances, the infants are taken ill within five to ten days after birth. The clinical course of the disease is rapid, terminating fatally within five to ten days in from 30%-50% of those infected. The attack rate is also correspondingly high. Rice, et al.,¹ reports 505 cases out of 3672 live born babies—a morbidity rate of 14%; 234 deaths, or a mortality rate of 7%; and a case fatality rate of 46%. These figures correspond closely to those that have been observed in California. In one outbreak involving 28 cases and 14 deaths, the attack rate in the nursery was 39%, the case fatality rate 50%. Postmortem examinations of infants dying from this infection have been characterized by a marked lack of pathologic lesions. None shows evidences of a true enteritis.

The mode of spread of the infection is not known. However, once established in a nursery, all known methods of nursery practice seem to fail to prevent a spread to the new-born infants as they are admitted to the nursery. It has invariably been found necessary to close the nursery to new infants until all of the contact group has been discharged. Once started in a nursery the infection apparently is spread from infant to infant by mechanical means.

Outbreaks have been noticed throughout the year although it seems to be more prevalent in the winter and spring months. No differences have been noted as to sex, race, or economic conditions. The premature and small infants seem to be the most susceptible and to succumb more rapidly to the infection. No apparent difference has been noted in types of feedings the infants have received. The same incidence is noted in breast and artificially fed infants, although in modern nursery practice the distinction between the two methods is not great as it is customary to supplement breast feedings.

No specific form of treatment has been found. As a rule, the infants respond better when detected early and measures taken promptly to keep up water balance and nutrition. Transfusions are of value and should be used as frequently as possible.

As long as the exact etiology is unknown, the method of spread is unknown, and specific therapy is lacking, the greatest reliance must be placed upon prevention. So upsetting have such outbreaks been in some localities that serious attention has been given to the encouragement of home deliveries. Much can be said for and against such practice. Nevertheless, it is necessary for hospital nurseries to adopt a system of nursery procedure designed to prevent the occurrence of such outbreaks, in so far as it can be done. It is necessary to establish a rather rigid method of aseptic technique in the nursery for each infant. This system may not prevent the introduction of the first case into the nursery but should prevent the spread to the other infants. The health department of the city of New York recently adopted a set of regulations for the operation of new-born nurseries.² These regulations are excellent and the strict adherence to the principles formulated in these regulations would tend to lessen the possibility of such an outbreak occurring.

¹ Epidemic Diarrhea of the New-born, J. L. Rice, W. H. Best, S. Frant, and H. Abramson, J.A.M.A. 109:475-481, August 14, 1937.

² Epidemic Diarrhea of the New-born, W. H. Best, J.A.M.A. 110:1155-1158, April 9, 1938. Epidemic Diarrhea of the New-born, S. Frant, and H. Abramson, J.A.P.H.A. Vol. 28, 36-43, January, 1938. Epidemic Diarrhea of the New-born, M. Greenberg and B. M. Wronker, J.A.M.A. 110:563-566, February 19, 1938.

While most of these nursery outbreaks have been reported in the middle west and the east yet since 1936, there have occurred at least seven such outbreaks in California thus definitely establishing its existence in this state. Because of its known presence here it is advisable for each public health official, obstetrician, pediatrician, and hospital superintendent to be thoroughly acquainted with the problem and institute measures to reduce its chances of occurrence to a minimum.

RODENT SURVEY CONTINUED

The rodent survey operated by the Bureau of Sanitary Inspections was conducted during February in sections of Alameda, Contra Costa, Santa Clara, San Francisco, San Benito, Madera, Merced, and Riverside counties. Nearly 3700 miscellaneous rodents were collected and examined, and nearly 8000 fleas taken from such rodents and their burrows were sent to the laboratory for examination. A special survey was made along the east shore line of San Francisco Bay, extending from Martinez to Alameda. Trapping activities covered meat packing plants, stores, warehouses, garbage dumps and other places. Nearly 3500 rats and 1300 fleas were collected in this area. Specimens were taken from each rat and sent to the laboratory for final examination. During the month the rodent situation was investigated at National Guard training camps and adjoining ranches as well as extensive cattle ranches where infected rodents had been discovered previously.

The rodent control forces operating under this bureau during February inspected 16,742 acres of agricultural land and reinspected 31,000 acres of such land. More than 7000 acres were treated for the destruction of rodents through the use of various poisons.

REPORTS OF VENEREAL DISEASES

During February of 1939, 1731 cases of syphilis and 1140 cases of gonorrhea were reported to the State Department of Public Health. The monthly average of syphilis cases reported during 1937 was 1441 and of gonorrhea, 1421.

MUMPS PREVALENT

Mumps is widely epidemic, 3672 cases having been reported during February. In the same month of 1938 and 1937, 1664 and 2874 cases respectively were reported.

ANTHRAX FROM SHAVING BRUSHES

Surgeon General Thomas Parran of the United States Public Health Service has notified state health officers of the occurrence of anthrax among persons who have used cheap shaving brushes purchased from variety stores in Middle Western states. Relative to the source of the infected brushes Dr. Parran states:

"Examination of this shaving brush as well as a number of other shaving brushes bearing the same trade-mark has resulted in the isolation of anthrax bacilli from all of the brushes so far examined in several laboratories. These shaving brushes are of foreign manufacture and have impressed on the handles '*Imperial, Sterilized, Japan, 332.*' They have been sold in a number of states, frequently in variety stores, for ten cents apiece. More than 35,000 of these brushes received in four shipments from Japan since 1937 have been sold or distributed.

"The Public Health Service in cooperation with the health authorities concerned has traced the shipments of shaving brushes back to the importer. Action by state and local authorities with respect to all known wholesale stocks of these shaving brushes have been taken or are in progress. However, there can be no assurance that all stocks have been located, because of incomplete, lost, or missing records and other trade practices. There is need for reaching, if possible, the purchasers of these shaving brushes and informing them of the danger of their use. Action has also been taken for the holding up in customs of any future shipments of shaving brushes until determined free from contamination. This action is to be taken regardless of whether or not the shipment is accompanied by a certificate of sterilization."

It is possible to sterilize shaving brushes that may be infected with anthrax, but because of the very low price of the brushes that caused the present outbreak it is far better to destroy them, by burning and obtain new brushes from a reliable American manufacturer. More than twenty years ago cases of anthrax occurred among users of shaving brushes made in this country from bristles obtained in oriental sources and without proper sterilization. The industry was surveyed at that time by the United States Public Health Service and regulations were added to the interstate quarantine regulations which would require effective sterilization of shaving brushes. The United States has been free of anthrax infection, due to this cause, for more than twenty years.

It is important that local health officers take steps to locate any stocks of shaving brushes that might belong to the lots mentioned in the Surgeon General's letter and take action to secure their sterilization under an approved process or have them destroyed by the owner.

VENEREAL DISEASE CLINICS BUSY

During January of 1939, 68,857 clinic visits were reported throughout the state. Nearly 43,000 treatments were administered to patients suffering from syphilis and nearly 12,000 treatments were administered to patients suffering from gonorrhea. The monthly average of clinic visits in 1938 was 57,824 and in 1937 the monthly average was 39,309. Progress was made in the development of new clinics in Oakland, San Francisco and Imperial County. Plans were developed for the extension of clinic facilities in Los Angeles during the coming year. Preliminary plans were laid for the coordination of clinic facilities in eight centers of Riverside County through the use of the county hospital organizations.

DRUG DISTRIBUTION

During February, almost 32,000 ampoules of drugs to be used in the treatment of syphilis were distributed by the Bureau of Venereal Diseases. Most of these went to health officers and clinics. A smaller number was distributed to private physicians whose patients were unable to pay for such drugs.

RABIES INVESTIGATED

Rabies control was investigated during February in San Mateo, Santa Clara, San Luis Obispo and Kern counties, including the communities of Palo Alto, San Jose, Bakersfield, Shafter and Arvin.

MORBIDITY

Complete Reports for Following Diseases for Week Ending March 4, 1939

Chickenpox

1243 cases: Alameda County 42, Alameda 20, Albany 2, Berkeley 11, Hayward 1, Livermore 10, Oakland 53, Piedmont 3, San Leandro 1, Butte County 4, Chico 55, Gridley 8, Contra Costa County 8, Martinez 5, Fresno County 8, Fresno 42, Imperial County 4, Inyo County 4, Kern County 9, Tehachapi 3, Los Angeles County 104, Alhambra 11, Arcadia 1, Burbank 4, Compton 1, Glendale 8, Huntington Park 14, Inglewood 7, La Verne 1, Long Beach 16, Los Angeles 100, Monrovia 32, Pasadena 11, Pomona 5, San Fernando 2, San Gabriel 8, San Marino 1, Santa Monica 3, South Pasadena 1, Torrance 1, Lynwood 2, Hawthorne 1, South Gate 14, Monterey Park 4, Maywood 1, Madera County 5, Madera 1, Chowchilla 4, San Anselmo 1, Yosemite National Park 1, Mendocino County 9, Point Arena 3, Ukiah 26, Merced County 3, Merced 6, Pacific Grove 1, Orange County 3, Anaheim 7, Fullerton 1, Santa Ana 5, Plumas County 2, Riverside County 3, Banning 4, Beaumont 10, Corona 13, Sacramento County 1, Sacramento 31, Hollister 1, San Bernardino County 11, Colton 1, Redlands 1, San Bernardino 2, San Diego County 32, Chula Vista 2, La Mesa 1, National City 19, Oceanside 21, San Diego 83, San Francisco 77, San Joaquin County 62, Lodi 2, Manteca 2, Stockton 13, San Luis Obispo County 1, San Mateo County 6, Daly City 2, Hillsborough 2, Redwood City 4, San Mateo 3, Santa Barbara County 1, Santa Clara County 6, Gilroy 2, Los Gatos 1, Mountain View 1, Palo Alto 6, San Jose 17, Sunnyvale 1, Santa Cruz County 1, Watsonville 3, Shasta County 7, Sonoma County 1, Stanislaus County 1, Modesto 3, Tehama County 6, Red Bluff 12, Trinity County 3, Tulare County 16, Tulare 1, Ventura County 3, Fillmore 4, Santa Paula 4, Yolo County 4, California 5.*

Diphtheria

45 cases: Oakland 1, Fresno County 1, Brawley 1, Los Angeles County 1, Long Beach 1, Los Angeles 21, Mendocino County 1,

Monterey County 2, Pacific Grove 4, Anaheim 1, San Bernardino County 1, Redlands 2, San Diego County 2, San Francisco 3, Santa Clara County 1, Watsonville 1, Oxnard 1.

German Measles

45 cases: Berkeley 4, Oakland 3, San Leandro 1, Inyo County 1, Corcoran 1, Los Angeles County 1, Compton 2, Long Beach 1, Los Angeles 10, Santa Monica 1, Yosemite National Park 1, Orange County 2, Fullerton 1, Orange 1, Sacramento County 2, San Francisco 4, San Luis Obispo County 4, Burlingame 1, Los Gatos 2, Visalia 2.

Influenza

51 cases: Berkeley 1, Contra Costa County 1, Fresno County 4, Fresno 1, Imperial County 1, Inyo County 3, Bakersfield 1, Taft 1, Los Angeles County 5, Los Angeles 18, Pomona 1, Whittier 1, Gardena 1, Madera County 1, Sausalito 1, Merced County 1, Modoc County 1, Santa Ana 1, San Francisco 3, Stockton 2, Ventura County 2.

Measles

4006 cases: Alameda County 161, Alameda 113, Albany 39, Berkeley 225, Hayward 17, Oakland 589, Piedmont 7, Pleasanton 7, San Leandro 83, Butte County 1, Chico 8, Contra Costa County 68, Martinez 5, Pittsburg 18, Walnut Creek 1, Fresno County 21, Fresno 52, Glenn County 1, Imperial County 1, Inyo County 1, Kern County 5, Bakersfield 10, Lake County 1, Lassen County 5, Los Angeles County 91, Alhambra 4, Arcadia 7, Burbank 8, Culver City 1, Glendale 7, Glendora 1, Inglewood 11, Long Beach 86, Los Angeles 406, Monrovia 24, Montebello 6, Pasadena 2, Redondo 8, San Gabriel 1, South Pasadena 1, Torrance 31, Lynwood 5, South Gate 3, Maywood 2, Gardena 1, Madera County 14, Chowchilla 2, Marin County 7, San Anselmo 21, San Rafael 8, Mendocino County 12, Fort Bragg 1, Ukiah 11, Merced County 6, Gustine 2, Monterey County 2, Orange County 48, Santa Ana 3, Lincoln 1, Riverside County 57, Banning 46, Corona 2, Perris 13, Riverside 36, Indio 11, Sacramento County 39, Sacramento 221, North Sacramento 19, San Bernardino County 23, Ontario 4, San Bernardino 5, San Diego County 3, Coronado 1, National City 1, San Diego 78, San Francisco 361, San Joaquin County 11, Lodi 4, Manteca 1, Stockton 89, Tracy 4, San Luis Obispo County 7, Paso Robles 3, San Luis Obispo 2, San Mateo County 30, Burlingame 6, Daly City 29, Redwood City 12, San Mateo 2, South San Francisco 20, San Carlos 3, Santa Barbara County 8, Lompoc 1, Santa Clara County 168, Gilroy 1, Los Gatos 4, Mountain View 1, Palo Alto 15, San Jose 176, Santa Clara 9, Sunnyvale 3, Santa Cruz County 24, Watsonville 13, Shasta County 3, Solano County 11, Suisun 2, Vallejo 20, Sonoma County 33, Petaluma 11, Stanislaus County 33, Modesto 2, Sutter County 3, Yuba City 1, Tehama County 30, Corning 2, Tulare County 1, Porterville 1, Ventura 1, Visalia 1, Yolo County 1, Marysville 1.

Mumps

1069 cases: Alameda County 11, Alameda 10, Albany 28, Berkeley 114, Hayward 4, Livermore 2, Oakland 130, Piedmont 34, San Leandro 8, Chico 16, Gridley 1, Contra Costa County 28, Martinez 9, Pittsburg 7, Fresno County 23, Fresno 5, Kern County 59, Bakersfield 4, Los Angeles County 18, Glendale 8, Hermosa 1, Huntington Park 2, Inglewood 1, Long Beach 2, Los Angeles 45, Monrovia 3, Pasadena 9, Pomona 3, Redondo 4, San Gabriel 1, Santa Monica 1, Maywood 1, Madera County 9, Chowchilla 1, Marin County 2, San Anselmo 1, Yosemite National Park 2, Mendocino County 13, Merced County 19, Gustine 2, Merced 17, Atwater 2, Mono County 2, Calistoga 1, Orange County 2, Santa Ana 3, Plumas County 2, Riverside County 3, Beaumont 19, Corona 1, Riverside 9, Sacramento County 4, Sacramento 26, Hollister 1, San Bernardino County 5, Ontario 3, San Diego County 10, National City 1, Oceanside 13, San Diego 16, San Francisco 90, San Joaquin County 25, Lodi 4, Manteca 1, Stockton 19, Tracy 1, San Luis Obispo County 2, San Luis Obispo 25, San Mateo County 4, Burlingame 7, San Mateo 1, Atherton 1, Santa Barbara County 2, Santa Barbara 1, San Jose 2, Santa Cruz County 8, Watsonville 2, Shasta County 1, Solano County 4, Fairfield 1, Rio Vista 4, Vallejo 3, Petaluma 2, Modesto 4, Tehama County 3, Red Bluff 1, Tulare County 10, Visalia 47, Yolo County 10, Woodland 2, California 1.*

Pneumonia (Lobar)

103 cases: Alameda County 1, Oakland 1, Contra Costa County 3, Concord 1, Los Angeles County 8, Alhambra 1, Glendale 2, Long Beach 1, Los Angeles 44, Pasadena 3, San Gabriel 1, Whittier 1, Torrance 2, Madera County 2, Riverside County 1, Sacramento County 1, Sacramento 4, San Diego 5, San Francisco 9, San Joaquin County 5, Stockton 3, San Jose 1, Santa Cruz County 1, Santa Paula 1, Yolo County 1.

Scarlet Fever

306 cases: Alameda County 1, Berkeley 2, Oakland 1, San Leandro 1, Butte County 4, Biggs 5, Chico 5, Colusa County 1, Williams 13, Contra Costa County 2, Placerville 1, Fresno County 5, Fresno 1, Selma 2, Glenn County 2, Brawley 1, Kern County 3, Lake County 1, Los Angeles County 42, Alhambra 1, Burbank 1, Compton 3, Glendale 5, Long Beach 4, Los Angeles 86, Montebello 2, Pasadena 3, Pomona 2, Redondo 2, Santa Monica 2, Whittier 1, Torrance 1, Hawthorne 1, Bell 1, Madera County 1, Madera 1, Merced County 1, Orange County 4, Anaheim 1, Brea 2, Orange 1, Santa Ana 4, Seal Beach 1, Tustin 1, Plumas County 3, Riverside County 1, Corona 1, Riverside 3, Sacra-

mento 2, San Bernardino County 6, Ontario 2, Redlands 1, San Bernardino 1, San Diego 3, San Francisco 23, San Joaquin County 4, Lodi 1, Manteca 2, Stockton 2, Burlingame 2, San Mateo 1, Santa Barbara 5, Santa Clara County 2, Los Gatos 1, Watsonville 1, Solano County 1, Vallejo 1, Modesto 4, Tehama County 1, Corning 1, Red Bluff 1, Tulare County 1, Visalia 1, Oxnard 2, California 1.*

Smallpox

40 cases: Fresno County 3, Imperial County 1, Compton 1, Long Beach 2, Los Angeles 4, Lincoln 1, Sacramento 8, Lodi 1, San Mateo County 1, Redwood City 1, San Carlos 1, Tulare County 16.

Typhoid Fever

One case: Orange County.

Whooping Cough

163 cases: Berkeley 3, Kern County 8, Lassen County 1, Los Angeles County 9, Alhambra 6, Azusa 3, Glendale 5, Long Beach 4, Los Angeles 24, Pasadena 2, Redondo 4, Santa Monica 4, Sierra Madre 1, Whittier 1, Hawthorne 1, South Gate 2, Monterey County 1, King City 6, Grass Valley 1, Orange County 1, Fullerton 3, Santa Ana 4, Corona 1, Riverside 2, Sacramento County 2, San Bernardino 1, San Diego County 10, Oceanside 1, San Diego 14, San Francisco 9, Daly City 1, Santa Barbara County 7, Santa Barbara 8, San Jose 2, Tulare County 4, Ventura County 3, Oxnard 2, Yolo County 2.

Meningitis (Epidemic)

5 cases: Berkeley 1, Fresno County 1, Los Angeles 1, San Bernardino County 1, Redlands 1.

Dysentery (Amoebic)

3 cases: San Bernardino County 1, San Francisco 1, Santa Barbara County 1.

Dysentery (Bacillary)

4 cases: Los Angeles 1, Sacramento 2, San Francisco 1.

Ophthalmia Neonatorum

One case: Los Angeles.

Pellagra

2 cases: Santa Barbara County 1, Santa Clara 1.

Poliomyelitis

2 cases: Glendale 1, Tulare County 1.

Tetanus

One case: San Francisco.

Trachoma

20 cases: Kern County 8, Santa Ana 2, Indio 10.

Encephalitis (Epidemic)

One case: San Joaquin County.

Paratyphoid Fever

2 cases: Los Angeles County 1, La Verne 1.

Trichinosis

One case: Oakland.

Food Poisoning

18 cases: Oakland 3, Los Angeles County 15.

Undulant Fever

10 cases: Oakland 1, Fresno County 1, Huntington Park 1, Los Angeles 1, Laguna Beach 1, Riverside County 1, Upland 1, San Jose 1, Oakdale 2.

Coccidioidal Granuloma

2 cases: Bakersfield 1, Stockton 1.

Septic Sore Throat

4 cases: Berkeley 1, Pasadena 2, Santa Cruz County 1.

Rabies (Animal)

23 cases: Alameda County 1, Fresno County 1, Los Angeles County 7, Burbank 1, Los Angeles 4, Manhattan 1, Monrovia 4, Hawthorne 1, San Jose 3.

* Cases charged to "California" represent patients ill before entering the state or those who contracted their illness traveling about the state throughout the incubation period of the disease. These cases are not chargeable to any one locality.